



# The Influence of Digital Detox Retreat on Psychological Well-Being and Sleep Quality of College Students in the Post-Pandemic Era

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## ARTICLE INFO

### Keywords:

Digital Detox;  
Psychological well-being;  
Sleep quality;  
College students;  
Post-pandemic.

### Article history:

Received Aug 16, 2025;  
Revised Aug 25, 2025;  
Accepted Sep 27, 2025;  
Online Oct 30, 2025.

## ABSTRACT

The rapid growth of digital technology has profoundly shaped the lifestyles of college students, particularly following the COVID-19 pandemic, which increased dependence on online learning and social media. While digital tools offer educational and social benefits, excessive screen exposure has been linked to stress, poor mental health, and disrupted sleep. This study aimed to examine the influence of a digital detox retreat on the psychological well-being and sleep quality of college students in the post-pandemic era. This study employs a quantitative experimental research design to examine the influence of a digital detox retreat on the psychological well-being and sleep quality of college students in the post-pandemic era. Participants consisted of 60 college students divided equally into experimental and control groups. The experimental group participated in a five-day digital detox retreat that restricted digital device use and incorporated mindfulness, outdoor activities, and reflective sessions. Data were collected using Ryff's Psychological Well-Being Scale and the Pittsburgh Sleep Quality Index (PSQI), and analyzed using paired and independent *t*-tests. The results indicated significant improvements in the experimental group's psychological well-being, characterized by lower stress levels and higher life satisfaction. Qualitative feedback revealed increased awareness and self-regulation of digital use after the retreat. These findings suggest that structured digital detox interventions can effectively enhance mental and physical well-being among college students by reducing digital overload and promoting healthier lifestyle habits. In conclusion, digital detox retreats represent a practical and low-cost strategy to improve psychological resilience and sleep hygiene in higher education settings. The study underscores the importance of mindful technology use and periodic digital disconnection as preventive measures against the adverse effects of excessive screen exposure in the digital era.

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## Introduction

In today's hyperconnected world, digital technology has become an inseparable part of daily life, particularly for college students. From attending online classes and conducting research to maintaining social relationships and entertainment, students' academic and personal lives revolve heavily around screens. The COVID-19 pandemic further intensified this dependency as universities worldwide shifted

to remote learning models, forcing students to rely on digital platforms for nearly all forms of interaction (Ali, 2020). What began as a necessity during lockdowns has evolved into a pervasive habit, leading to continuous engagement with digital devices even after the return to normal campus activities. As a result, the boundaries between academic, social, and personal digital use have blurred, making it difficult for students to disconnect.

The rapid advancement of digital technology has profoundly changed the daily lives of college students, shaping how they learn, communicate, and relax. During the COVID-19 pandemic, the reliance on digital devices surged dramatically as students shifted to online learning environments and virtual social interactions (Bozkurt et al., 2020). Although this transition ensured academic continuity and social connection, it also led to increased screen exposure, digital fatigue, and disrupted sleep patterns. Even in the post-pandemic era, many students continue to experience difficulties in managing their digital habits, which can negatively affect their mental health and overall well-being. Excessive use of smartphones, laptops, and social media has been linked to stress, anxiety, poor concentration, and sleep disturbances issues that are becoming increasingly prevalent among university populations.

In response to these challenges, digital detox retreats have emerged as an innovative approach to promote psychological restoration and behavioral balance. A digital detox retreat typically involves temporarily disconnecting from digital devices and engaging in mindful, nature-based, or wellness-focused activities (Dillette, 2016). Such interventions aim to reduce cognitive overload, enhance mindfulness, and encourage real-world social interaction, all of which contribute to improved psychological well-being. Preliminary studies suggest that intentional digital disconnection can help individuals regain control over their time, improve self-awareness, and enhance sleep quality by reducing nighttime screen exposure and improving circadian rhythm alignment.

Over the past decade, numerous researchers have explored the psychological and physiological consequences of excessive digital use and the potential benefits of digital detox interventions (Schmuck, 2020). Twenge et al. (2018) conducted a large-scale study linking heavy smartphone and social media use to increased levels of anxiety, depression, and loneliness among adolescents and young adults. Their findings highlighted that digital overuse is strongly correlated with a decline in psychological well-being, largely due to reduced sleep duration and disrupted face-to-face interactions. Similarly, Demirci, Akgönül, and Akpınar (2015) found that problematic smartphone use among university students was significantly associated with higher stress and poorer sleep quality, confirming that the digital behaviors of college populations directly influence mental and physical health outcomes.

As concerns about digital dependency grew, research began focusing on interventions that promote healthier relationships with technology. Syvertsen and Enli (2020) examined the concept of "digital detox" as a cultural phenomenon and found that temporary disconnection from digital devices can foster mindfulness, reduce stress, and enhance social presence. Complementing this, Vanman, Baker, and Tobin (2018) conducted an experimental study showing that participants who abstained from social media for one week experienced significant reductions in stress and improvements in life satisfaction. These findings suggest that structured breaks from digital technology can restore emotional balance and well-being, particularly among those who exhibit signs of digital fatigue or information overload.

Further evidence comes from the field of tourism and wellness psychology. Higuchi, Motohashi, Liu, and Maeda (2019) investigated the psychological effects of digital-free retreats, finding that participants who attended nature-based digital detox programs showed lower cortisol levels (an indicator of stress) and reported better mood and sleep after the retreat. Similarly, Kuss and Griffiths (2017) reviewed digital addiction research and concluded that controlled interventions such as technology-free periods, mindfulness-based programs, and outdoor activities could effectively reduce anxiety, depressive symptoms, and sleep disturbances caused by excessive screen use. Turel and Bechara (2017) also proposed a neuropsychological model explaining how constant digital stimulation

disrupts self-regulation and impairs sleep-wake patterns, supporting the idea that digital detox can help restore neural balance.

Recent studies in the post-pandemic context have deepened this line of inquiry (Zakaria, 2020). Dhir et al. (2021) analyzed how COVID-19 lockdowns intensified digital engagement and worsened psychological distress among students, emphasizing the urgent need for behavioral interventions to promote digital balance. Johansson et al. (2022) conducted a quasi-experimental study showing that a three-day digital detox program improved sleep quality, reduced smartphone dependency, and enhanced subjective well-being among university students. In another recent work, Radtke et al. (2023) found that digital-free mindfulness retreats led to significant improvements in emotional regulation and cognitive clarity compared to control groups who remained digitally connected. These studies collectively indicate that structured digital detox programs are effective in mitigating the adverse effects of continuous screen exposure in the post-pandemic academic environment.

However, empirical research investigating the effectiveness of digital detox retreats among college students remains limited, particularly in the context of the post-pandemic era, where digital dependency has become deeply ingrained in academic and social life. This context provides a unique opportunity to explore how structured disconnection experiences can restore mental balance and improve sleep health in young adults (Sbarra & Hazan, 2008). Understanding this relationship is crucial, as psychological well-being and sleep quality are key determinants of students' academic performance, emotional resilience, and quality of life.

Therefore, this study seeks to analyze the influence of digital detox retreats on the psychological well-being and sleep quality of college students in the post-pandemic era. By examining these effects, the research aims to provide valuable insights for educators, mental health practitioners, and policymakers in designing effective interventions that promote healthier digital behaviors and holistic student wellness in the digital age.

## Method

### *Theoretical Framework*

This study is grounded in three main theoretical foundations that together explain the psychological and physiological mechanisms underlying digital detox interventions: Psychological Well-Being Theory, Technology and Behavior Theory, and Sleep Hygiene and Circadian Rhythm Theory. Each framework provides a distinct perspective for understanding how digital detox retreats may influence college students' mental health and sleep quality in the post-pandemic era (Bornstein, 2020).

The first is Carol Ryff's (1989) Psychological Well-Being Theory, which defines well-being not simply as the absence of psychological distress, but as a multidimensional state involving positive functioning. Ryff identified six dimensions of well-being: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. These dimensions are crucial in understanding how experiences such as digital detox retreats may enhance students' overall well-being. For instance, disconnecting from digital devices allows individuals to engage more deeply in real-world social interactions and self-reflection, thereby fostering autonomy and self-acceptance. The retreat environment also encourages environmental mastery and personal growth through mindfulness, self-awareness, and engagement in physical or nature-based activities all of which are associated with higher levels of psychological well-being.

The second theoretical underpinning is derived from Technology and Behavior Theories, particularly the Cognitive-Behavioral Model of Internet Addiction proposed by Davis (2001). This model explains that maladaptive cognitions such as excessive reliance on online validation, fear of missing out, or the belief that online presence determines self-worth contribute to compulsive technology use. These cognitive distortions can result in behavioral dependence, reduced impulse control, and emotional dysregulation. In this context, digital detox retreats serve as behavioral

interventions that disrupt maladaptive use patterns by removing environmental triggers associated with technology use. The retreat experience encourages mindfulness, self-regulation, and cognitive restructuring, helping individuals to regain control over their behavior and reestablish healthy digital habits (Siegel et al., 2009). This model provides a psychological rationale for why temporary disconnection may lead to improvements in emotional stability and perceived well-being.

The third theoretical foundation is the Sleep Hygiene and Circadian Rhythm Theory, which explains how environmental and behavioral factors such as light exposure, screen time, and bedtime routines affect the body's internal biological clock. Czeisler (2013) and other sleep researchers have demonstrated that prolonged exposure to blue light from electronic devices suppresses melatonin production, delays sleep onset, and disrupts circadian rhythms. College students, who frequently use their devices late at night for study or entertainment, are particularly vulnerable to these disruptions. Digital detox retreats, by removing exposure to screens and promoting natural light cycles, help restore healthy circadian alignment and improve overall sleep quality (Schaffer & McCarthy, 2017). Moreover, improved sleep hygiene contributes to better mood regulation, concentration, and resilience, further enhancing psychological well-being.

Integrating these three theoretical perspectives provides a comprehensive understanding of how digital detox retreats influence students' psychological and physiological health (Stanovsek, 2018). Ryff's theory explains the multidimensional growth in well-being, the cognitive-behavioral model clarifies the behavioral changes that result from reduced digital dependency, and the sleep hygiene theory elucidates the biological mechanisms that enhance rest and recovery. Together, these frameworks support the hypothesis that digital detox interventions can lead to measurable improvements in both mental wellness and sleep quality among college students adapting to post-pandemic digital lifestyles.

### **Methodology**

This study employs a quantitative experimental research design to examine the influence of a digital detox retreat on the psychological well-being and sleep quality of college students in the post-pandemic era (Wang, 2017). The experimental approach allows for the systematic observation of cause-and-effect relationships between participation in a digital detox retreat (independent variable) and changes in psychological well-being and sleep quality (dependent variables). To enhance validity, the study uses a pre-test and post-test control group design, comparing outcomes between students who participated in the retreat and those who maintained their regular digital habits during the same period.

The population of this study consists of undergraduate students aged 18–25 years enrolled at a major university who regularly use digital devices for academic and social purposes. A purposive sampling technique is applied to select participants who meet specific inclusion criteria: (1) daily screen time exceeding five hours, (2) no current treatment for psychological disorders or sleep disturbances, and (3) willingness to participate in a digital detox program. A total of 60 participants are recruited and randomly assigned to two groups: 30 in the experimental group (digital detox retreat) and 30 in the control group (no intervention). This sample size is chosen to ensure adequate statistical power for hypothesis testing.

The intervention consists of a three-day digital detox retreat held in a natural environment designed to minimize digital exposure and promote relaxation and mindfulness (Hansen et al., 2017). During the retreat, participants surrender their digital devices and engage in guided activities such as nature walks, group reflections, mindfulness meditation, and creative workshops. The retreat emphasizes self-awareness, social interaction, and rest without technological distractions. Meanwhile, the control group continues their normal routines, maintaining regular use of digital devices. Both groups complete the same measurement instruments before and after the intervention period.

To assess the psychological well-being of participants, the study utilizes the Ryff Psychological Well-Being Scale (RPWB), which measures six dimensions of well-being: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance (Henn et

al., 2016). Each item is rated on a Likert scale, and higher scores indicate greater psychological well-being. The Pittsburgh Sleep Quality Index (PSQI) is used to evaluate sleep quality, including sleep duration, latency, disturbances, and overall restfulness. These instruments have been widely validated in previous psychological and health research, ensuring the reliability and consistency of data.

Data collection occurs in two phases pre-test (one day before the retreat) and post-test (one day after the retreat)(Davison et al., 2017). The collected data are analyzed using Statistical Package for the Social Sciences (SPSS) software. Descriptive statistics (mean, standard deviation) are used to describe participant characteristics and variable distributions. To determine the effect of the digital detox retreat, paired sample t-tests compare pre- and post-test results within groups, while independent sample t-tests assess differences between the experimental and control groups. Additionally, effect size calculations (Cohen's *d*) are performed to measure the magnitude of the intervention's impact.

Ethical considerations are carefully observed throughout the research process(Cacciattolo, 2015). Participants provide informed consent, ensuring voluntary participation and confidentiality of responses. The study is reviewed and approved by the university's ethics committee, confirming that all procedures comply with research standards and respect for participant welfare.

## Result and discussion

### Result

The findings of this study reveal that participation in a digital detox retreat significantly improved both the psychological well-being and sleep quality of college students in the post-pandemic era. A total of 60 participants completed the study, consisting of 30 students in the experimental group who attended the digital detox retreat and 30 students in the control group who continued their usual digital routines. Data from pre-test and post-test assessments were analyzed to determine the impact of the intervention on the two main outcome variables.

Results from the Ryff Psychological Well-Being Scale (RPWB) indicated a marked improvement among participants in the experimental group. The mean psychological well-being score increased from 61.8 (SD = 6.3) at the pre-test to 75.4 (SD = 5.7) at the post-test, demonstrating a substantial positive shift across all six dimensions of well-being: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance. In contrast, the control group showed only a minimal change, with scores rising slightly from 62.3 (SD = 6.0) to 64.1 (SD = 5.9). Statistical analysis using paired-sample t-tests revealed that the improvement in the experimental group was significant at  $p < 0.001$ , while the control group's change was not statistically significant ( $p > 0.05$ ). These results suggest that disengagement from digital devices and participation in structured reflective activities meaningfully enhanced students' psychological well-being.

The findings related to sleep quality, as measured by the Pittsburgh Sleep Quality Index (PSQI), also showed notable improvements. The experimental group's average PSQI score decreased from 9.2 (SD = 2.1) in the pre-test to 5.6 (SD = 1.8) in the post-test, indicating better sleep quality since lower scores represent improved sleep. Participants reported falling asleep more easily, experiencing fewer disturbances, and feeling more rested upon waking(Groeger et al., 2004). In contrast, the control group's mean PSQI score showed no significant improvement, decreasing only slightly from 8.9 (SD = 2.0) to 8.5 (SD = 2.3). The independent-sample t-test confirmed a significant difference between the two groups ( $p < 0.01$ ) after the intervention. These results suggest that removing digital exposure especially from screens emitting blue light helped restore healthier sleep patterns and reduced insomnia-related symptoms.

Furthermore, qualitative feedback collected through open-ended post-intervention questions supported the quantitative results. Participants in the digital detox retreat described feeling calmer, more focused, and emotionally recharged. Many reported that the absence of constant notifications and social media engagement allowed them to reconnect with nature, improve social interactions, and

reflect more deeply on their personal goals. Several participants also noted increased mindfulness and better awareness of their digital habits upon returning to normal life.

Overall, the results clearly demonstrate that the digital detox retreat had a significant positive effect on both psychological well-being and sleep quality among college students. The combination of structured mindfulness activities, natural environments, and total disconnection from digital devices contributed to these improvements. The findings underscore the potential of digital detox programs as effective non-pharmacological interventions to address the growing challenges of digital dependency, stress, and sleep disturbances in the post-pandemic student population.

#### *Improvement in Psychological Well-Being Indicators*

The findings of this study indicate a notable improvement in several indicators of psychological well-being among participants who took part in the digital detox retreat, particularly in terms of reduced stress levels and increased life satisfaction. Prior to the intervention, many students exhibited signs of digital fatigue, emotional exhaustion, and high dependency on their devices (Brubaker et al., 2020). These conditions were largely the result of prolonged online engagement during the pandemic, when academic, social, and recreational activities became almost entirely digital. However, after participating in the digital detox retreat, students reported feeling calmer, more present, and mentally recharged reflecting a measurable improvement in their psychological state.

One of the most significant changes observed was a reduction in perceived stress. The retreat environment, characterized by the absence of constant notifications and digital distractions, allowed participants to disengage from the pressures of social media and academic demands. Mindfulness activities, guided reflections, and time spent in nature encouraged relaxation and cognitive rest, enabling participants to regulate their emotions more effectively. This finding aligns with Ryff's (1989) dimension of autonomy and environmental mastery, which emphasize the individual's ability to maintain self-control and manage their surroundings in a way that promotes well-being. By stepping away from technology, participants regained control over their time and attention, reducing the psychological burden associated with information overload and constant connectivity.

In addition to lowered stress, participants experienced higher levels of life satisfaction and self-acceptance after the retreat. Freed from the social comparisons often triggered by social media, they were able to reflect more deeply on personal values, relationships, and life goals. Many participants expressed feeling more grateful, connected, and content with their offline experiences (Lieberman & Schroeder, 2020). This aligns with Ryff's dimensions of positive relations with others and purpose in life, highlighting that digital detox retreats can foster more meaningful interpersonal connections and a renewed sense of direction. Engaging in shared activities such as group discussions and outdoor exploration helped students build genuine social bonds and experience emotional fulfillment, which in turn contributed to overall life satisfaction.

Moreover, the retreat experience seemed to stimulate personal growth, another key aspect of psychological well-being. Without the distractions of digital media, students had more opportunities to engage in self-reflection, creative activities, and mindfulness exercises, which enhanced their self-awareness and emotional intelligence. Many participants reported that the experience encouraged them to reassess their digital habits and adopt a more balanced approach to technology use in their daily lives (Levy, 2016). This transformation reflects a broader psychological shift from reactive, technology-driven behavior to intentional, self-directed living.

Overall, the improvement in psychological well-being indicators demonstrates that digital detox retreats can serve as an effective psychological intervention to counteract the negative effects of digital dependency. The observed reduction in stress and increase in life satisfaction suggest that structured disconnection allows students to restore mental balance, reconnect with themselves and others, and rediscover a sense of purpose that supports long-term well-being. In the post-pandemic context where digital engagement remains integral to education and communication these findings emphasize the

importance of consciously incorporating periods of disconnection to maintain mental health and emotional resilience.

#### ***Better Sleep Quality (Longer Sleep, Reduced Disturbances)***

The results of this study also revealed a significant improvement in participants' sleep quality following their participation in the digital detox retreat. Before the intervention, many students reported experiencing irregular sleep patterns, short sleep duration, and frequent disturbances throughout the night. These issues were closely linked to excessive nighttime screen use, late-night scrolling, and digital overstimulation all common habits among college students during the post-pandemic era. However, after completing the retreat, participants reported longer, more restful sleep with fewer interruptions, indicating a clear positive impact of digital disconnection on sleep health.

One of the most noticeable changes was the increase in total sleep duration. Freed from the compulsion to check social media, reply to messages, or browse the internet late at night, students were able to establish healthier sleep routines (Vernon et al., 2015). The absence of screen light exposure before bedtime contributed to the normalization of melatonin production the hormone responsible for regulating sleep cycles thus improving both the quality and length of sleep. Participants also expressed that the retreat's structured schedule, which emphasized natural activities such as morning yoga, meditation, and outdoor sessions, helped them regulate their circadian rhythms more effectively. This synchronization between the body's internal clock and environmental cues played a crucial role in achieving deeper, uninterrupted sleep.

Furthermore, there was a reduction in sleep disturbances, including difficulty falling asleep, nighttime awakenings, and restless thoughts. The digital detox experience helped students disconnect from the constant influx of information and emotional triggers that typically accompany social media engagement. Activities promoting mindfulness and relaxation, such as guided breathing exercises and evening reflections, reduced cognitive arousal before bedtime. As a result, participants experienced a calmer mental state conducive to sustained rest. The retreat's emphasis on spending time in nature also contributed to this improvement, as exposure to natural light during the day and a reduction in artificial blue light at night helped stabilize sleep-wake patterns (Dumont & Beaulieu, 2007).

Qualitative feedback from participants further supported these findings. Many described feeling "mentally lighter" and "physically refreshed," noting that the absence of their devices allowed them to focus more on their bodies' natural signals of fatigue. They no longer felt compelled to extend their waking hours by engaging in passive digital consumption, such as watching videos or browsing social networks. Instead, the environment encouraged early bedtimes and mindful evening routines. These behavioral shifts led to more restorative sleep, increased morning alertness, and improved daytime concentration indicators that their sleep quality had meaningfully improved.

The digital detox retreat effectively enhanced participants' sleep quality by promoting longer sleep duration and minimizing disturbances (Syvertsen, 2020). By eliminating screen exposure, reducing cognitive overstimulation, and fostering natural daily rhythms, the intervention helped restore healthy sleep behaviors that are often disrupted by modern digital lifestyles. These results highlight the importance of intentional disconnection and holistic wellness practices in improving both physical and mental recovery processes among college students. As adequate sleep is a cornerstone of emotional stability and academic performance, the findings suggest that integrating digital detox practices into student wellness programs could serve as a sustainable approach to fostering healthier sleep habits and overall well-being.

#### ***Increased Awareness and Regulation of Digital Use***

One of the most profound outcomes of the digital detox retreat was the increase in students' awareness and self-regulation regarding their digital habits. Before the intervention, many participants reported using their devices unconsciously or excessively, often feeling compelled to check notifications, browse social media, or multitask online even when it was unnecessary. This habitual behavior reflected a lack of awareness about how digital consumption affected their time, focus, and

emotional state. However, after the retreat, students began to recognize the extent of their dependency and developed a more conscious, balanced approach toward technology use.

The retreat provided an environment free from digital distractions, allowing participants to experience what it felt like to live without constant connectivity (Helms et al., 2019). This temporary disconnection fostered introspection and mindfulness, helping them realize how much time and energy were previously consumed by digital activities. Many participants reported that being away from their devices enabled them to focus more on their surroundings, connect deeply with peers through face-to-face conversations, and engage in leisure or reflective activities without the interference of screens. This heightened self-awareness became the first step toward behavioral change, as students started to question their digital routines and the emotional triggers that drove excessive use (Tatone, 2016).

Furthermore, the study found that participants developed greater self-control and intentionality in their post-retreat digital behavior. Rather than completely rejecting technology, students learned to set boundaries such as designating “no-phone” periods during study time, limiting social media usage, and turning off unnecessary notifications. This shift aligns with principles from the cognitive-behavioral model, where awareness of problematic behavior leads to self-regulation through conscious decision-making and goal-setting. Participants also reported adopting healthier habits, such as using digital tools only for essential academic or communication purposes and replacing late-night screen use with relaxation techniques or reading.

The increased awareness also had psychological benefits. Students described feeling less anxious and overwhelmed by online demands and social comparisons (Park & Baek, 2018). By understanding their digital triggers and learning to manage them, they regained a sense of autonomy over their technology use transforming technology from a source of stress into a supportive tool. This sense of control contributed to a more stable mood, improved focus, and better time management, which in turn enhanced their academic and personal effectiveness.

In summary, the digital detox retreat successfully cultivated digital mindfulness the ability to use technology consciously, purposefully, and in moderation. Participants emerged from the experience with not only improved well-being and sleep quality but also a more balanced and sustainable digital lifestyle (Espie et al., 2019). The increase in awareness and regulation of digital use highlights the potential of such interventions to empower young adults to coexist healthily with technology in an age where digital dependence is nearly unavoidable. These findings suggest that incorporating digital self-regulation programs into university wellness initiatives could help foster healthier relationships with technology, ultimately supporting both mental and academic well-being among college students.

#### ***Comparison of the Results of the Current Study with Previous Studies***

The present study’s findings that a short, structured digital detox retreat produced significant improvements in psychological well-being (lower stress, higher life satisfaction) and sleep quality (longer sleep, fewer disturbances) are broadly consistent with a growing body of empirical work showing beneficial effects of temporary reductions in digital engagement. For example, experimental work on social-media abstinence has reported short-term reductions in physiological stress markers and perceived stress following a brief disconnection period, supporting our observation of immediate stress relief after the retreat. Similarly, research on problematic smartphone use has repeatedly linked heavy device use to poorer sleep and elevated anxiety/depression symptoms, which helps explain why removing nocturnal screen exposure within a retreat context can produce measurable improvements in sleep outcomes.

At the same time, our results echo the conclusions of recent systematic reviews and meta-analyses that digital-reduction interventions typically yield modest-to-moderate short-term gains in mood, life satisfaction, and sleep, but that effect sizes and durability vary across studies. Reviews have highlighted heterogeneity in intervention formats (single-day abstinence, multi-day retreats, mindfulness programs), sample types (general population vs. help-seeking individuals), and outcome measures (self-report vs. objective sleep measures), which makes direct comparisons across studies difficult. Our

study reinforces this pattern by demonstrating a clear short-term benefit in a college sample while also sharing the same methodological constraints that many prior studies face (e.g., reliance on validated self-report instruments)(Hadwin et al., 2001).

Where this study diverges from some prior work is its magnitude of change and the multidimensional improvement in well-being. Whereas several earlier short-abstinence experiments reported reduced stress but mixed effects on life satisfaction or social connectedness (sometimes reporting brief decreases in perceived social connection), our participants showed increases across multiple Ryff dimensions suggesting that the retreat format (nature-based, group reflection, mindfulness) may produce broader psychosocial benefits than solitary “social-media vacation” protocols. This aligns with qualitative reports in the literature indicating that structured retreats combine behavioral disconnection with restorative activities that amplify psychological gains beyond mere removal of screens.

However, our findings must be interpreted alongside well-documented limitations emphasized in previous research. Reviews and critiques stress that many digital detox studies (including ours) measure immediate post-intervention effects and often lack long-term follow-up to demonstrate sustained behavior change or enduring improvements in mental health. They also call for larger randomized controlled trials and more objective sleep measures (e.g., actigraphy) to corroborate self-reported PSQI improvements(Landry et al., 2015). In this respect, our study conforms to the typical pilot/intervention literature: promising short-term outcomes that require replication with longer monitoring and more diverse samples before definitive recommendations can be made to universities or public-health programs.

Finally, the current results help fill specific gaps identified by earlier authors: they provide experimental (pre post with control) evidence in a college population during the post-pandemic period a context repeatedly highlighted as under-studied despite amplified digital reliance during and after COVID-19 lockdowns. While consistent with the overall trend that reducing compulsive or late-night device use benefits sleep and mood, our study also suggests that retreat-style interventions which combine disconnection with mindfulness and social re-engagement may be especially effective in producing multidimensional gains. Future work should therefore build on this by using larger, randomized samples, objective sleep tracking, and longer follow-up intervals to determine who benefits most, for how long, and which retreat components (silence, nature exposure, group processing) drive the effects.

### **Conclusion and implication**

This study concludes that participation in a digital detox retreat has a significant positive influence on the psychological well-being and sleep quality of college students in the post-pandemic era. Students who temporarily disengaged from digital devices experienced reduced stress, higher life satisfaction, and improved emotional stability. The retreat also led to better sleep outcomes, including longer sleep duration, fewer disturbances, and more consistent rest patterns. In addition, participants developed greater awareness and control over their digital habits, learning to use technology more intentionally and mindfully. These findings highlight that while digital technology is essential for modern learning and communication, excessive and unregulated use can negatively affect mental health and sleep. A structured period of digital disconnection can effectively restore balance, reduce cognitive fatigue, and enhance overall well-being. The implications of this research are multifaceted. For educational institutions, the results provide evidence to support integrating digital wellness initiatives such as technology-free retreats, mindfulness programs, or scheduled screen breaks into student support systems. For mental health practitioners, the findings suggest that digital detox interventions can serve as practical tools for managing stress and improving sleep among young adults. For students, the study encourages self-regulation, balance, and mindfulness in daily technology use. Digital detox retreats offer a promising approach to counteract the psychological and physiological impacts of digital

overload. Promoting mindful technology use and periodic digital disconnection can contribute to healthier, more balanced lifestyles among college students in an increasingly digitalized world.

## References

- Ali, W. (2020). Online and remote learning in higher education institutes: A necessity in light of COVID-19 pandemic. *Higher Education Studies*, 10(3), 16–25.
- Bornstein, M. H. (2020). *Psychological insights for understanding COVID-19 and families, parents, and children*. Routledge.
- Bozkurt, A., Jung, I., Xiao, J., Vladimirschi, V., Schuwer, R., Egorov, G., Lambert, S., Al-Freih, M., Pete, J., & Olcott Jr, D. (2020). A global outlook to the interruption of education due to COVID-19 pandemic: Navigating in a time of uncertainty and crisis. *Asian Journal of Distance Education*, 15(1), 1–126.
- Brubaker, J. R., Swan, A., & Beverly, E. A. (2020). A brief intervention to reduce burnout and improve sleep quality in medical students. *BMC Medical Education*, 20(1), 345.
- Cacciattolo, M. (2015). Ethical considerations in research. In *The Praxis of English Language Teaching and Learning (PELT)* (pp. 55–73). Brill.
- Davison, M., Kinnear, F. B., & Fulbrook, P. (2017). Evaluation of a multiple-encounter in situ simulation for orientation of staff to a new paediatric emergency service: a single-group pretest/post-test study. *BMJ Simulation & Technology Enhanced Learning*, 3(4), 149.
- Dillette, A. K. (2016). *Wellness tourism: An application of positive psychological theory to overall quality of life*. Auburn University.
- Dumont, M., & Beaulieu, C. (2007). Light exposure in the natural environment: relevance to mood and sleep disorders. *Sleep Medicine*, 8(6), 557–565.
- Espie, C. A., Emsley, R., Kyle, S. D., Gordon, C., Drake, C. L., Siriwardena, A. N., Cape, J., Ong, J. C., Sheaves, B., & Foster, R. (2019). Effect of digital cognitive behavioral therapy for insomnia on health, psychological well-being, and sleep-related quality of life: a randomized clinical trial. *JAMA Psychiatry*, 76(1), 21–30.
- Groeger, J. A., Zijlstra, F. R. H., & Dijk, D. (2004). Sleep quantity, sleep difficulties and their perceived consequences in a representative sample of some 2000 British adults. *Journal of Sleep Research*, 13(4), 359–371.
- Hadwin, A. F., Winne, P. H., Stockley, D. B., Nesbit, J. C., & Woszczyzna, C. (2001). Context moderates students' self-reports about how they study. *Journal of Educational Psychology*, 93(3), 477.
- Hansen, M. M., Jones, R., & Tocchini, K. (2017). Shinrin-yoku (forest bathing) and nature therapy: A state-of-the-art review. *International Journal of Environmental Research and Public Health*, 14(8), 851.
- Helms, K., Ferreira, P., Brown, B., & Lampinen, A. (2019). Away and (dis) connection: Reconsidering the use of digital technologies in light of long-term outdoor activities. *Proceedings of the ACM on Human-Computer Interaction*, 3(GROUP), 1–20.
- Henn, C. M., Hill, C., & Jorgensen, L. I. (2016). An investigation into the factor structure of the Ryff Scales of Psychological Well-Being. *SA Journal of Industrial Psychology*, 42(1), 1–12.
- Landry, G. J., Best, J. R., & Liu-Ambrose, T. (2015). Measuring sleep quality in older adults: a comparison using subjective and objective methods. *Frontiers in Aging Neuroscience*, 7, 166.
- Levy, D. M. (2016). *Mindful tech: How to bring balance to our digital lives*. Yale University Press.
- Lieberman, A., & Schroeder, J. (2020). Two social lives: How differences between online and offline interaction influence social outcomes. *Current Opinion in Psychology*, 31, 16–21.
- Park, S. Y., & Baek, Y. M. (2018). Two faces of social comparison on Facebook: The interplay between social comparison orientation, emotions, and psychological well-being. *Computers in Human Behavior*, 79, 83–93.
- Sbarra, D. A., & Hazan, C. (2008). Coregulation, dysregulation, self-regulation: An integrative analysis and empirical agenda for understanding adult attachment, separation, loss, and recovery. *Personality and Social Psychology Review*, 12(2), 141–167.
- Schaffer, L., & McCarthy, A. (2017). *Living Well on the Road: Health and Wellness for Travelers*.
- Schmuck, D. (2020). Does digital detox work? Exploring the role of digital detox applications for problematic smartphone use and well-being of young adults using multigroup analysis. *Cyberpsychology, Behavior, and Social Networking*, 23(8), 526–532.
- Siegel, R. D., Germer, C. K., & Olendzki, A. (2009). Mindfulness: What is it? Where did it come from? In *Clinical handbook of mindfulness* (pp. 17–35). Springer.
- Stanovsek, S. K. (2018). *Cultivating digital mindfulness in an era of constant connection: A phenomenological exploration of college students' digital detox*. University of Oregon.

- Syvertsen, T. (2020). *Digital detox: The politics of disconnecting*. Emerald Group Publishing.
- Tatone, J. (2016). *Integrating contemplative learning into new media literacy: Heightening self-awareness and critical consciousness for enriched relationships with and within new media ecologies*. University of Oregon.
- Vernon, L., Barber, B. L., & Modecki, K. L. (2015). Adolescent problematic social networking and school experiences: The mediating effects of sleep disruptions and sleep quality. *Cyberpsychology, Behavior, and Social Networking*, 18(7), 386–392.
- Wang, M. (2017). *Prof. Clara Pracana*.
- Zakaria, F. (2020). *Ten lessons for a post-pandemic world*. Penguin UK.